

Tweet me, message me, like me: using social media to facilitate pedagogical change within an emerging community of practice

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DOI:

[10.1080/13573322.2013.858624](https://doi.org/10.1080/13573322.2013.858624)

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Citation for published version (Harvard):

Goodyear, VA, Casey, A & Kirk, D 2014, 'Tweet me, message me, like me: using social media to facilitate pedagogical change within an emerging community of practice', *Sport Education and Society*, vol. 19, no. 7, pp. 927-943. <https://doi.org/10.1080/13573322.2013.858624>

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**Tweet me, message me, like me: Using social media to facilitate pedagogical change
within an emerging community of practice.**

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20 **Abstract**

21 Whilst e-support has been positioned as a means to overcome some of the time and financial
22 constraints to professional learning, it has largely failed to act as medium for professional
23 learning in physical education. Consequently, this paper positions teachers prior interest with
24 social media acts as a type of ‘leverage’ for using sites such as Facebook and Twitter for
25 professional learning purposes. Therefore, the purpose of this paper is to explore how social
26 media operates as a communicative space, external to the physical site of an emerging
27 community of practice (CoP) that supported teachers’ professional learning and their
28 subsequent longer term changing practice.

29 This study is nested within a wider longitudinal project that explores how teachers learnt and
30 refined their use of a pedagogical innovation (Cooperative Learning) through the overarching
31 methodology, participatory action research. Social media emerged as a form of
32 communication that was not in the study’s original design. The paper explores 2125
33 interactions, through Facebook and Twitter, between five physical education teachers and a
34 facilitator over a two year period.

35 Through social media the facilitator re-enforced teachers changing practice, aided the
36 development of the practices of an emerging CoP, and by the CoP situating their use of the
37 innovation in the virtual world, teachers were supported in changing their practice over time
38 and the use of the pedagogical innovation was sustained. Interactions promoted teacher
39 inquiry, challenged teachers to further develop their existing use of the innovation, and
40 encouraged them to work together and develop shared practices. Therefore, social media is
41 presented here as a ‘new’ method for professional learning that supports pedagogical change
42 and overcomes some of the financial and time implications of facilitators and teachers
43 working together.

Using social media to facilitate pedagogical change

44 *Keywords: social media, pedagogical change, professional learning, innovation, e-support,*
45 *technology, Cooperative Learning*

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Social media sites such as Facebook and Twitter are virtual platforms that allow for users to share and exchange information. In recent times, this form of communicating has become a global phenomenon, with millions of people accessing these sites on their phones, tablets and personal computers to interact with friends or acquaintances (Sennett, 2012). Indeed, in May 2013 Facebook reported that there were 665 million active daily users². To put this number into perspective, the daily users are larger than the combined populations of the United Kingdom (63 million), the United States (316 million) and Brazil (180 million). As part of this revolutionary trend, whilst Facebook and Twitter were originally developed and used for ‘social’ networking purposes, these sites are being increasingly used as part of teachers’ pedagogical practice(s) (Rosen, 2010). For example, through the sharing of knowledge on Facebook, social media was suggested by Polsgrove and Fremming (2013) to be a way of increasing young people’s awareness of health and their participation in physical activity. Yet whilst social media is a global phenomenon and is positioned as an educative tool, there is little known about how it can be used for professional learning purposes and how it can be used to support teachers changing their practice.

In acknowledging the rallying calls for pedagogical change we also should consider that there are few opportunities for teachers to be adequately supported in changing their practice (Elliot & Campbell, 2013; Makopoulou & Armour, 2011). Perhaps, as Luehmann & Tinelli (2008) suggested social media might have the potential to offer ‘reform-minded teachers’ the space and support to grow, and to this end it seems to be an important focus for further exploration.

In considering social media as a medium for professional learning, we propose that social media could act as a virtual location external to the school site to support teachers changing their practice. Indeed, whilst social connectivity with facilitators can aid a teacher’s

² Facebook investor report: <http://investor.fb.com/releasedetail.cfm?ReleaseID=761090>

longer term changing practice and facilitators can support a community-based approach to professional learning (Elliot & Campbell, 2013), teachers often express a lack of access to ‘expert advisors’ where the time to work together and the financial cost of travel are implications that often hinder such a partnership (Armour & Yelling, 2004; Lund et al., 2008; Makopoulou & Armour, 2011). For example, the time it would take for facilitators to provide individual school-based support and the time teachers have to work with facilitators in the ‘busy bustling businesses’ of schools (Hattie, 2009, p.3), is often limited (Armour & Yelling, 2004; Lund et al., 2008; Makopoulou & Armour, 2011). Facebook and Twitter are virtual locations that could aid facilitators working with multiple teachers, and due to these sites accessibility, social media could overcome some of the time and financial implications to professional learning.

However, the argument for using technology as a medium for professional learning is not a new stance. Writing almost a decade ago, Armour and Yelling (2004) suggested that e-support could overcome the financial burden on schools for teachers’ attendance to external workshops. Similarly, Lund et al. (2008) argued that teachers could be supported in their use of innovations by talking to facilitators through web-based technologies. Yet, whilst these propositions for using technology were justified in the digital age, e-support has largely failed to act as medium for supporting teachers changing their practice in physical education. Indeed, Cothran et al. (2009) argued that teachers were unwilling to use Web.2.0 platforms due to limited access to computers and the time required to engage with online discussion boards.

In his discussions around the virtual world, Rosen (2010, p.41) argued that ‘the trick is the leverage and their love of social networks to create educational tools built around them’. Whilst Rosen (2010) focussed on how social media could be used to strengthen students’ learning, the same messages around leverage and the love of social media could be

applied to teachers and their use of social media for professional learning. Indeed, considering social media's global use, it seems reasonable to suggest that many teachers are already users of these sites. Taking this stance, and as Rosen (2010) suggests, pre-engagement with social media, as opposed to Web.2.0 platforms, could act as leverage to pedagogical dialogue.

The purpose of this paper is to explore how social media operates as a communicative space external to the school site to support teachers changing their practice. In the following sections the setting and participants, and how social media is positioned as a medium for professional learning is discussed. Subsequently, we show how interactions on social media supported an emerging community of practice (CoP) changing practice. In particular, social media contributed to the sustained use of a pedagogical innovation by providing the means for the facilitator to give moral support, and develop teachers existing practices. Furthermore, social media allowed the CoP to situate their changing practice in the virtual world. In order to understand how social media supported changing practice we offer some clarification around the definitions and distinctions we are using for (a) a CoP, and (b), the emerging CoP we are presenting.

Definitions and Distinctions

In defining a CoP we consider it to be an 'intrinsic condition for the existence for knowledge' (Lave & Wenger, 1991, p.98). In other words, we hold that knowledge and practice is socially constructed through a 'set of relations among persons' within the community (Lave & Wenger, 1991, p.98). It is the relations between community members - which can be understood by the three dimensions of mutual engagement, a shared repertoire and joint enterprise (Wenger, 1998) - and the way members support the practices of the community that are significant. In this paper we explore members of a physical education department's changing practice through their use of a pedagogical innovation (the

Cooperative Learning model). We are suggesting that this physical education department was an emerging CoP because we were observing signs of the three dimensions within the school context. For example, each teacher occupied a unique identity (feeling knowledgeable and skilful (Barab & Duffy, 2012)) within the department where their contributions around the innovation were important for other members (mutual engagement). The teachers, through pedagogical dialogue and modifications made to the curriculum, facilitated the development of each other's practice, and the practice of the community, in order to achieve a common and negotiated goal of using an innovation (joint enterprise). Over time the department began to develop routines, actions, or ways of doing things that were becoming a sustainable part of their practice (shared repertoire).

It is also important to note that whilst Lave and Wenger's (1991) theory suggests that CoPs naturally exist it has been suggest that CoPs can also emerge for a particular purpose (Barab & Duff, 2012). Indeed, a CoP can emerge as a result of a collective group of individuals working towards achieving the same pre-defined learning goal(s) (Barab & Duffy, 2012; Hoadley, 2012). In the process of working towards achieving the same pre-defined learning goal(s), individuals can develop a shared history with one another, members develop a unique identity and a CoP can emerge where a community holds its own leadership and agenda(s) (Barab & Duffy, 2012; Hoadley, 2012). Therefore, whilst a CoP may have already existed, this paper is suggesting that an emerging CoP operated within the physical education department in relation to the shared learning goal of the teachers changing their practice through their use of the pedagogical innovation.

Methods

Setting and Participants

Over the course of two academic years seven teachers from a comprehensive secondary school (age 11-19) in the UK were involved. Their aim was to learn about, and

then refine, their use of a pedagogical innovation (Cooperative Learning) through the overarching methodology, participatory action research. The teachers varied in their age (24-37) and their professional career phases, ranging from less than two years to more than fifteen years of experience as qualified physical education teachers.

As first author/researcher, 'Victoria' acted as a boundary spanner³ (or facilitator) to provide new information, challenge teachers' reflections and inquiry, and support a community/departmental-based approach to pedagogical change. In the first academic year, and as part of her doctoral study, she visited the school bi-weekly where she observed teachers lessons and frequently engaged in both formal discussions (during interviews, professional learning meetings) and informal discussions (in the physical education office and through social media) with the teachers. Towards the end of the first year, Victoria facilitated the emergence of a CoP through supporting teacher inquiry and by encouraging the teachers to open up a pedagogical dialogue with each other (Goodyear & Casey, 2013). In the second year, Victoria visited the school once per school term. During her visits she observed lessons, engaged in both formal and informal discussions and continued to support the practices of the emerging CoP. However, social media emerged as a communicative space for discussions between the teachers and Victoria that was not in the study's original design. Social media acted as a virtual location for Victoria to continue, extend and even begin conversations when she was not in the school context.

Social Media as a medium for professional learning

The teachers and Victoria interacted with each other through tweets, retweets (RTs), likes and private messages (PMs). Furthermore, Victoria had created a Facebook page, where she posted status updates, pictures and videos around the teachers' use of Cooperative

³ Aldrich and Herker (1977) defined a boundary spanner as a representative of an organization who interact with other agents in society to distribute and facilitate the use of new information.

Learning and on some occasions the teachers commented on these posts. The types of interactions and the functions of both Facebook and Twitter can be understood from Table 1.

<Insert table 1 here>

Prior to this study Victoria had worked as a physical education teacher at the school. Consequently, she was ‘friends’ with five of the seven teachers on Facebook. However, within this study the use of Facebook occurred through Victoria’s research group’s Facebook profile and not her own. Furthermore, Facebook was used for PMs, rather than public discussions and the teachers chose to follow this page and interact with Victoria in this professional rather than their existing personal spaces. On Twitter, in contrast, Victoria was not followed by, and nor did she follow any of the teachers prior to the study (see Table 1). This is because all participants (Victoria included) used Twitter for professional learning purposes and not personal interactions. Therefore, while Victoria’s initial ‘friendship’ with the teachers allowed her access to the school, the use of social media was not dependent on this friendship. Social media is positioned as an emergent form of interaction that the teachers voluntarily engaged with, and which was used to support changing practice, not as a required method of pedagogical change.

The seven teachers engaged with Facebook and Twitter to varying degrees. Two teachers rarely engaged with Facebook or Twitter for ‘social’ or ‘professional’ discussions. Whilst these two teachers were still engaged with developing their use of Cooperative Learning and were supported by the emerging CoP in the school context, they preferred to interact with Victoria through face-to-face discussions or by phone conversations and text messages. Subsequently, these two teachers have been acknowledged as non-users of social media for the purposes of this study. However, the remaining five teachers frequently engaged with these sites for social and professional purposes. Consequently, social media was a vehicle for some teachers to interact with Victoria outside of her visits to the school. In

this paper we explore the interactions through Facebook and Twitter between Victoria and the five teachers. Teachers' names are pseudonyms and their identities on social media have been masked.

Data Gathering and Analysis

From September 2011 to May 2013 data were gathered from 28 PMs on Facebook and 99 Twitter conversations between the teachers and Victoria. Furthermore, 125 RTs, 10 likes, 12 comments on the Facebook page, 1577 tweets, and 274 posts made by Victoria to the Facebook page were gathered. This was achieved by using Facebook export data application⁴ and the twitonomy application⁵. PMs between the teachers and Victoria on Facebook were copied and pasted from Victoria's private profile to a word document. In addition discussions around social media that occurred during teacher interviews were drawn from the wider project.

Data analysis was approached through an inductive lens. Victoria began writing analytical memos, where she developed an understanding of key events and the types of conversations that took place through social media. Subsequently, Victoria developed descriptive codes to code the data set. Following the coding of data, she re-organized the data and explored whether the events and conversations were comparable across the teachers. From this approach three themes were created that were consistent across the teachers: recognition, moral support and extended professional learning. Drawing on Morse (1994), Victoria then began recontextualising using theory to explore the evolving knowledge from the data and to position the understanding of how social media was supporting changing practice. In particular, Victoria explored how the themes interacted with the methodology participatory action research. However, through further inquiry and deliberation, how the

⁴ The Facebook export data application allows the page host to export posts made to the page, comments, and likes.

⁵ The twitonomy application permits subscribers to gather data on anyone's tweets, RT's and mentions. The application is available at: www.twitonomy.com/

themes were located within the dimensions of CoP was considered. Subsequently, and due to the coherence of recognition, moral support and extended professional learning with dimensions of a CoP, a CoP was used to frame how social media was supporting the department's changing practice. Themes that emerged from this analysis were: *'Tweet me, retweet me, like me: 'doing something right''*, *'tweets and messages: supporting the emerging CoP'*, and *'situating the emerging CoP in the virtual world'*. Throughout these processes, the other authors engaged in member checking of Victoria interpretations. They challenged her initial perceptions until they reached a level of agreement.

Results

This section introduces the idea that social media can act as a 'location', external to the physical site of a CoP, where a boundary spanner can facilitate the development of mutual engagement, shared repertoire, and joint enterprise (Wenger, 1998) as means to support teachers professional learning and longer term pedagogical change. Social media contributed to the teachers' development of a unique identity through a display of 'social' competence where their contributions were seen as important to other members of the emerging CoP (mutual engagement). In addition, the Twitter conversations between Victoria and the teachers contributed to the development of a shared repertoire (routines, actions or ways of doing things that become a sustainable part of practice) and joint enterprise (the development of each other's practice, the community, to achieve a common goal). This was seen when virtual conversations transferred to face-to-face dialogue and the sharing of good practice between the teachers in the school context. Finally it was personified by the development of a departmental identity on Twitter - through a separate account - where the department chose to locate their common goal (i.e. using the innovation) in the virtual world.

Tweet me, retweet me, like me: 'doing something right'

When engaged in the initial stages of pedagogical change, and when learning how to use a pedagogical model, it has been suggested that teachers often feel out of their comfort zones and they are sometimes challenged with transferring their theoretical understanding of the features of innovations into classroom action (Ko et al, 2006). In the first year of this study, and in particular in the teachers' first unit using the model, Victoria chose to use social media to provide an extended form of moral support. For example, following lesson observations and a subsequent face-to-face discussion with Christina on her frustrations with using the innovation with her year 8 class on a Tuesday, Victoria continued the conversation on the Friday night through a PM to see how the same lesson taught to a year 7 class later in the week had gone. In this discussion Victoria used social media as a 'location' where she could provide support for Christina's changing practice, knowing that Christina was feeling out of her comfort zone following their face-to-face discussion earlier in the week.

Victoria: hey how did it go with the 7s

Christina: Better than expected tbh [to be honest]!!! I'm actually quite pleased!!!

Victoria: ahh awesome better than 8's

Christina: Hmmm maybe more comfortable because I wasn't stressed about it!! They need more work than the eights but I feel confident with it all now!

Victoria: ah that's good it's always good when u teach the same lesson again- you are good at it don't stress... (PM)

The very notion of RTing (see Table 1) extends our claim that social media provided a forum for re-enforcement around the teachers changing practice. Indeed, the teachers would often RT a post made by Victoria that focused on positive aspects of their teaching. For example, Chris RTed Victoria's post which said, 'Chris discussed how he has developed his students' ability to work as a team by pausing a unit'. Similarly, the teachers liked (see Table 1) some of the posts that were made by Victoria to Facebook. Drawing on Recuero, Araujo and Zago (2011) discussions around RTs, the act of RTing and potentially 'liking', conveys a signal of relevance and importance to others, with the aim of developing shared knowledge. Subsequently, and by the teachers RTing Victoria's tweets, it could be said that the teachers

were recognising that their own practice would be useful to others, but yet at the same time they were increasing their reputation as ‘innovative’ practitioners (Recuero, Araujo & Zago, 2011).

Since the five teachers could access Victoria’s posts and each other’s RTs, they began to see how positively their use of Cooperative Learning was being viewed. Such recognition almost certainly had an impact on their practice and the department’s practice. In other words, without having to engage in face-to-face dialogue or ask each other about their use of Cooperative Learning, the posts made on Facebook and Twitter provided an ‘update’ around how each member of the department was using the model. Furthermore, as the teachers grew in confidence, most notably in the second year, the teachers began to tweet around their own practice which, in turn, other members of the department and Victoria RTed. This served as a form of inter- and intra-professional recognition and the sharing of practice in these virtual spaces. For example, Kelly RTed Joey: RT @Joey: CL [Cooperative Learning] carousel station 3 pupils create their own key word wordfoto for CHD #pegeeks. [Link to a picture removed]’ (Twitter). In the same way, Victoria RTed Kelly’s post: RT @Kelly: Activity 2 for the learning teams in Cooperative Learning [Link to picture removed] (Twitter).

At this juncture it seems appropriate to consider Victoria’s social/professional positioning on Twitter, and why Victoria’s tweets (that encouraged the teachers to RT the posts she made) and her RTs of the teachers’ posts would be seen as significant to the teachers. Indeed, it seems reasonable to suggest that the very fact that Victoria had developed a level of ‘social capital’, and a subsequent level of ‘trust’, within the physical education community on Twitter made any actions she took on the teachers behalf important in celebrating their emerging status as innovative practitioners. Social capital signals the development of good interpersonal relations with users and a reputation on Twitter that holds the tweeter in a position where the information they share is meaningful, timely and will

312 impact their significant number of followers (Recuero, Araujo & Zago, 2011). Similarly,
313 Naumann (2013) held that trust, is afforded to others by groups of people who share the same
314 interests and who, through their interactions (RT's or comments) with the tweeter's post
315 enjoy an enhanced degree of importance through this association. Taking this stance,
316 Victoria's 1251 followers (at the point of analysis) were mainly physical education or sport
317 pedagogy practitioners and any RT or comment she made would reach a broad array of
318 practitioners from other schools and educational contexts. Given her level of online social
319 capital and 'trust' it is likely that the teachers enjoyed increased levels of 'influence'
320 themselves built on Victoria's presence within a physical education community on Twitter. In
321 this way, the observed social currency of Victoria's tweets coupled with the teachers RTs,
322 acted to re-affirm to the teachers that they were 'doing something right'.

323 The tweets, RTs and likes gave the teachers a form of re-enforcement that allowed the
324 teachers to feel comfortable with their changing practice. They occurred at a time when they
325 were feeling 'out of their comfort zones' and when they were seeking to sustain their use of a
326 model beyond the honeymoon period (Kirk, 2011). The tweets 'publically' exemplified that
327 the teachers 'were doing something right' and provided an affirmation of competence, with
328 the potential of shared practices (i.e. mutual engagement). Yet it could be said that tweets
329 allowed Victoria to portray the teachers - and for the teachers to portray themselves - as 'star
330 performers' (Sennett, 2012). Such an expression means that the use of social media gave the
331 teachers an identity as someone who was competent in their use of the pedagogical model
332 and someone who was being 'innovative'. To summarise, these arguments around the
333 growing levels of competence and the notion of being a 'star performers' (Sennett, 2012), we
334 have drawn upon a comment made by Kelly at the end of the first academic year.

335 You can see that from Twitter and stuff that you can see that you are at the forefront
336 of something. And it is nice to know that if people are interested in it and doing it and
337 that if you become better in it that you are leading the forefront of it (Interview)

338 **Tweets and messages: supporting the emerging CoP**

339 Tweets and messages were a location for Victoria to support the teachers' use of the
340 model and develop their competence when she was not at the school. Furthermore, these
341 interactions encouraged the teachers to share their practice with one another, contributing to
342 the development of the dimensions of a joint enterprise and a shared repertoire (Wenger,
343 1998).

344 In consideration of developing teachers' use of the model, social media was used by
345 the teachers to initiate contact with Victoria to seek advice. For example, Chris initiated
346 contact with Victoria through PM on Facebook during an evening, which then led to a
347 discussion on the phone that enabled Victoria to support his changing practice. Indeed, at
348 8.57pm an initial phone call or text message was out of working hours, yet by initiating
349 contact through Facebook, the message then enabled Victoria to support Chris's
350 apprehensions about how he could modify his lesson the next day.

351 Chris: Evening Goodyear

352 Victoria: What's up?

353 Chris: Site team are saying the MUGA is going to probably be locked up all week,
354 and groups are being doubled up because of the snow. What shall I do?

355 Victoria: I'll give u a bell [ring] if you want?

356 Chris: Ok yeah num[ber] is XXXX (PM)

357 Yet the conversations did not always lead to a phone call or email. They often
358 occurred on the virtual sites outside of sociably acceptable times. Victoria's tweets or posts to
359 the Facebook page would sometimes prompt the teachers to ask for her support. For example,
360 when Victoria posted to the Facebook page asking if any of the teachers needed any
361 resources to support their planning (using resources created), Jane informed Victoria about
362 her next unit which enabled Victoria to find resources to send to Jane to support her planning.

363 PEPRN⁶: Been looking at some of Ashley's [Author 2] CL [Cooperative Learning]
364 resources from school - let me know if there are some specific ones you would like to
365 see
366 Jane: My next one is going to be in badminton, going to do pair share perform with
367 them but keep them in their learning teams from last unit
368 PEPRN: I got some for tennis [on pair share perform] - similar will scan and send
369 them to your email
370 Jane: Cool thanks!!!
371 (Facebook Page posts and comments 10pm-11pm)

372 These conversations through social media opened up the opportunity for Victoria to
373 support the teachers in their planning for the units and either speak with them further on the
374 phone or send some resources over via email to support their practice. Similar to the
375 discussions with Chris and Jane, Victoria gave teachers advice, 'planted ideas in their heads'
376 for their units, and allowed the teachers to consider her suggestions before she visited the
377 school later that week to discuss the ideas with them further face-to-face.

378 Over the course of the two years, and when the teachers were becoming more
379 comfortable with their use of the pedagogical model, Victoria provided fewer resources and
380 ideas through social media. Instead these discussions focussed on challenging the teachers to
381 develop their existing practice and re-enforcing their ideas for change. The following
382 discussion is an example of Twitter conversations mid-way through the second academic
383 year. This discussion is typical of these sorts of exchanges and shows how Victoria
384 challenged Kelly's practice and use of the model. In contrast to the discussion with Chris and
385 Jane in their initial use of the model (above), Kelly developed her own ideas. Victoria re-
386 enforced Kelly's ideas, but yet at the same sought to develop them through prompts and it
387 could be said that Victoria was encouraging Kelly to feel knowledgeable and skilful.

388 Kelly: Next round of observations coming up using Cooperative Learning. Yr 8
389 Athletics this time. #brainstorm #pegeeks #edtech
390 Victoria: interesting...you doing something different to last year?
391 Kelly: not decided yet - might do stad jigsaw [Cooperative Learning Structures,
392 Student Teams Achievement Division], if that's possible

⁶ PEPRN is the identity Victoria used on the Facebook page rather than her own personal account. It is the research group's webpage and can be found at www.peprn.com

393 Victoria: very innovative. I'd b v[very].interested to hear about it.. at UOB [University
394 of Bedfordshire] one of students did stad with pairs check perform (another
395 Cooperative Learning Structure) & worked well
396 Kelly: cool - need to look at the timings and activities to see if it fits
397 Victoria: yeah suppose how we'll the class is used 2 it cud [could] effect timings too
398 Kelly: its the group who I had for cl [Cooperative Learning] last year so they'll adapt
399 quicker than the others so maybe
400 Victoria: yeah true...maybe they need an additional social challenge then too which
401 this could offer (Twitter).

402 Following this initial conversation, six days later Kelly tweeted Victoria: “trying the
403 idea of giving LO's [learning outcomes] through a voice memo in the 1st lesson to see if they
404 can do it in the following weeks” (Twitter). It could be assumed that Kelly was considering
405 that the voice memo would reduce her interaction time with the students and the voice memo
406 would support her strive to challenge her students when using two Cooperative Learning
407 structures, an approach she had not taken before. Victoria responded to this idea by re-
408 enforcing the use of the voice memo, encouraging her to provide feedback on the impact of
409 this approach: “oh before the obs...let us know how it goes v[ery].interested in how this cud
410 work...gr8 [great] way for meaningful inclusion of ICT” (Victoria Twitter).

411 The impact of this sustained interaction between Victoria and Kelly might best be
412 understood through the following conversation. Two weeks after the initial ideas were
413 discussed the following tweets show how Kelly had included a voice memo into her lessons
414 to support her students' learning.

415 Kelly: voice memoing lesson obs[ervation] worked brilliantly today... (1/3)
416 Kelly: each team had an iPod with the memo then when they were confident they
417 knew them they ticked them off and I (2/3)
418 Kelly: randomly selected the numbered heads⁷ and questioned there understanding -
419 all done as a comp[etition] for points (3/3)
420 Victoria: brilliant pleased it went well - I'm sure the students liked the tech too :-)
421 Kelly: I'm going to do it in theory next
422 Victoria: how much facilitation was involved...could they do it independent from the
423 voice memo & then you extend?
424 Kelly: I could have pushed it and had each task explanation on a memo
425 Victoria: awesome interested to hear how it goes in theory then :-)

⁷ Numbered heads is a Cooperative Learning structure

In Kelly's perception, this change to her practice had worked 'brilliantly' and as a result of this successful experience she now considered applying this approach to her theory lessons (examination physical education). This application to theory is significant because the teachers in the first academic year were focussed on embedding Cooperative Learning into their practical-based lessons. Therefore, using Cooperative Learning in theory based-lessons was a less well developed context for their changing practice. However, the interactions through social media and the experience from her lessons had played a role in encouraging Kelly to develop her existing practice in both a context she was becoming comfortable in using Cooperative Learning and an unfamiliar pedagogical context for Cooperative Learning.

Whilst the discussions with Victoria served to support and encourage a change in the teachers' individual practice, and perhaps allowed the teachers to feel knowledgeable and skilful, we feel that the discussions with Victoria also encouraged teachers to open up a face-to-face pedagogical dialogue with one another in the school to support each other's practice. Indeed, the conversations initiated the sharing of practice, which in turn contributed to the development of a joint enterprise and a shared repertoire within the department (Wenger, 1998). For example, Kelly tweeted about her use of the comic life application that she was using to create resources for her lessons: 'an example of a page from my fitness components comic made using @comiclfe #pegeeks #mlearning #edtech #vitalcpd [Link Inserted to a picture]' (Twitter). Whilst this was not related to the pedagogical model, Victoria asked her through Twitter 'would these work do you think with Cooperative Learning?. Potentially this conversation was a seedbed of an idea for Kelly's use of the model, yet the use of the comic life application emerged at a departmental level as a way of supporting students' learning. Although we cannot be certain that it was a result of Victoria's tweet - either through seeing this conversation on Twitter or Kelly sharing her practice through face-to-face dialogue in the school context - all five teachers began to use the comic life application to create resources

Using social media to facilitate pedagogical change

for their lessons. The teachers then tweeted Victoria to inform her that they were a) sharing practice with each other in departmental meetings, and to b) show her the resources that they were creating using the comic life application.

Jane: Just to let you know we recorded a part of dept meeting tonight either sharing good practice or talking about our current units (Twitter).

Joey: Relay comic life resource. Cooperative learning including numeracy and literacy. Coming in 3 parts. #pechat #pegeeks [Link Inserted to a picture]' (Twitter).

Through our discussions around the tweets and messages it seems reasonable to suggest that social media operated as a location for Victoria to support the emerging CoP through the development of the three dimensions. She helped to develop the teachers' competence using the pedagogical model, shared resources with them and challenged the teachers' ideas. Furthermore, the teachers could see that each other's use of the model could be an important contribution to their own practice (mutual engagement) and Victoria had some influence on encouraging the teachers to share their practice. These interactions in turn supported the department's use of the model (joint enterprise) where the teachers were showing signs of developing shared routines and methods to support students' learning (shared repertoire). At the end of the second academic year, the following discussion with Chris shows how the department attributed their sustained use of Cooperative Learning to the support from each other and the information shared and discussed through social media. Therefore, social media had played a valuable role in supporting the practices of the emerging CoP and pedagogical change.

Chris: We have shared between each other and in that sense this year [2nd year] has been a lot lot easier

Victoria: so the department has been a main facilitator?

Chris: Yeah definitely the department and Twitter I suppose

Victoria: what do you mean by Twitter?

Chris: um things like you [Victoria] have shared or documents Ashley [second author] has shared, the general kind of sharing and discussions going on. (Interview).

Situating the emerging CoP in the virtual world

481 Whilst the teachers tweeted around their own individual practice, they also tweeted around
482 their department's practice. In this way, the teachers were situating their use of the
483 pedagogical model and the practices of this emerging CoP in the virtual world. Most
484 particularly it was the head of department (Joey) that shared the department's practice,
485 choosing to share this with Victoria, and congratulate and demonstrate his department's
486 successes to his followers through the use of hashtags (see Table 1). For example, Joey:
487 Victoria best Obs⁸ [observation] results ever! With every member of the dept [department]
488 using Cooperative Learning #outstanding (Twitter).

489 This departmental identity and the situating of the CoP in the virtual spaces could be
490 further understood through the creation of a separate Twitter account that was developed by
491 the department (without Victoria's encouragement) in the second academic year. This
492 account, as the profile states, was created 'to support all teachers in using CL [Cooperative
493 Learning] and to share experiences'. Yet, whilst this account was developed as a means to
494 support other teachers' use of the model, this most evidently served as a form of departmental
495 recognition for their innovative practice. Through tweets, they were now celebrating their
496 collective use of Cooperative Learning, and how they were providing professional support for
497 teachers from other schools to use the model. Indeed, they represented this through both
498 tweets and the comic life application.

499 PEdepartment: Here is a poster of the work we have been doing as a dept. any
500 questions please ask. #Ukedchat #edchat [Link to a picture removed] (Twitter)
501 PEdepartment: Comic on how Cooperative Learning started to its current position in
502 our school #pegeeks #ukedchat #edchat #CPD [Link to a picture removed] (Twitter)

503 It seems reasonable to suggest that, the department chose to develop a collective
504 identity as a group of teachers who were working together to use Cooperative Learning and
505 supporting other teachers' use of the model in the school context. It could be said that they

⁸ Teachers were observed by members of the senior leadership team who assessed the quality of teaching and learning in their lessons

were attempting to strengthen their resolve and show that they were together ‘doing something right’. This adds further to the notion of being ‘star performers’ and developing a collective identity as being knowledgeable and skilful. Yet drawing on Barab and Duffy (2012) and Wenger’s (1998) discussions around CoPs, when situating the emerging CoP in the virtual world through tweeting around the department’s use of the model and the separate Twitter account, they were giving their own individual practices and the practices of the department both meaning and purpose.

Conclusion

The purpose of this paper was to present social media as a communicative space external to the school site that supported teachers changing their practice. Through social media the boundary spanner (or facilitator) re-enforced teachers changing practice, aided the development of the practices of an emerging CoP, and by the CoP situating their use of the innovation in the virtual world, teachers were supported in changing their practice over time and social media played a role in the teachers sustaining their use of the pedagogical innovation. In concluding this paper, we consider whether social media should be used in our research designs, how we might use these virtual sites as a means to facilitate pedagogical change, and how social media can act as a research method.

Social media presents itself as a ‘new’ method for professional learning that supports pedagogical change. Indeed, interactions through Facebook and Twitter promoted teacher inquiry, challenged teachers to further develop their existing use of an innovation, and encouraged them to work together and develop shared practices. These interactions contributed to the sustained use of the innovation. Therefore, we argue that social media should be considered as a method to connect researchers and teachers for the purpose of professional learning to support pedagogical change.

However, social media should be acknowledged as a voluntary means through which researchers can support teachers in school, not, perhaps, as a prescribed means. It is important to highlight that social media ‘worked’ with teachers who chose to use these virtual networks and interact with the researcher. It was ineffective as a means of support for the two non-users. Consequently, as a community we need to ensure we empower and facilitate practitioners to develop their practice without alienating those who don’t want to engage with social media. We need to manage different forms of engagement with social media, and offer other means for contact such as phone conversations, email or text messages for those who do not want to engage with sites such as Facebook and Twitter. Therefore, this paper argues that social media should be considered as a means of extended and frequent communication with practitioners that supports both the relations established within the professional contexts and other forms of communication, such as face-to-face dialogue and email.

In considering how we use social media sites, our research suggests that the researcher becomes authentically located in a ‘social’ space where they occupy a professional identity that teachers wish to become engaged with. In this way it can be considered as a *quid pro quo* relationship in which the teachers gain a reputation as an innovative practitioner as a consequence of working with an influential boundary spanner. Social capital and online trust show that in order for social media to ‘work’ facilitators need to ‘buy in’ to social media themselves and use these sites to engage in pedagogical dialogue with practitioners. Regardless of this though it seems important that teachers choose to follow and engage in professional discussions with the facilitator. Whilst prior face-to-face relationship is one way to gain access, and might be considered as a means for how we initiate this method of communication, we argue that it is the professional and sustained discussions that practitioners want to engage with; particularly on Twitter. In this way, social media should not be ‘dipped in and out of’ for the purpose of research. Interactions with practitioners need

to be meaningful, mutually beneficial, sustained and influential, and facilitators need an online presence that affords at least the potential of shared interaction and meaning making.

We conclude by asking ‘should we’ and ‘how do we’ use social media. Social media is a global phenomenon and ‘essentially’ a space for 24/7 interactions that can give professionals frequent support if, when, and as they choose to interact. Yet as a community we need to ensure that social media does not become oppressive. Whilst it can support interaction in the busyness of practitioners’ professional lives, we must ensure that we don’t impede on practitioners, or indeed our own, personal lives to a point where social media becomes work plus more work (Kirk, 1986). Moreover, as new forms of communication enter our social sphere, social media may soon become a method of the past that is no longer viable – such as ‘friends reunited’ or ‘My Space’. Therefore, it is the creation of relevant methods that support frequent, sustained and purposeful interactions that are important if we are to engage with teachers and support professional learning that results in pedagogical change.

Acknowledgements: Thanks to the teachers at The Buckingham School for their continued and sustained support in exploring their changing practice, and Kathy Armour and Mary O’Sullivan whose help allowed us to develop the discussions in this paper.

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